

- 1 Claim 1. A method of quantifying the quality of service in a CDMA
- 2 cellular telephone system comprising the steps of:
- 3 determining all locations in a service area at which degraded operations
- 4 may be expected,
- 5 assigning a value to each location at which degraded service may be
- 6 expected to represent a level of service at the location,
- 7 summing the levels of service at each location in the service area at
- 8 which degraded operations may be expected, and
- 9 dividing the sum by the level of service throughout the service area to
- 10 obtain a value representing the quality of service for the service area.
- 1 Claims 2. A method as claimed in Claim 1 in which the step of
- 2 determining all locations in a service area at which degraded operations
- 3 may be expected comprises:
- 4 determining total interference for each location in the service area from
- 5 data defining signals received at the location,
- 6 determining a received signal level providing a quality transmission at
- 7 each location,
- 8 determining path loss between each location and each base station,
- 9 determining a level of transmitted signal from each base station to each
- 10 location at which signals are expected using received signal level
- 11 providing a quality transmission at the location and path loss between
- 12 the location and each such base station, and

13 comparing maximum channel transmission power to the level of  
14 transmitted signal determined.

1 Claims 3. A method as claimed in Claim 2 in which the step of  
2 determining all locations in a service area at which degraded operations  
3 may be expected comprises:

4 determining total interference for each location in the service area,

5 determining a received signal level providing a quality transmission at  
6 each location,

7 determining path loss between each location and each base station,

8 determining a level of transmitted signal from each base station to each  
9 location at which signals are expected using received signal level  
10 providing a quality transmission at the location and path loss between  
11 the location and each such base station,

12 comparing maximum channel transmission power to the level of  
13 transmitted signal determined,

14 summing the levels of all transmitted signals from each base station, and

15 comparing the sum of the levels of all transmitted signals from each base  
16 station to the maximum transmission power of the base station.

1 Claims 4. A method as claimed in Claim 1 in which the step of  
2 determining all locations in a service area at which degraded operations  
3 may be expected comprises:

4 determining a level of transmitted signal from each base station to each  
5 location at which signals are expected using received signal level  
6 providing a quality transmission at the location and path loss between  
7 the location and each such base station,  
8 summing the levels of all transmitted signals from each base station, and  
9 comparing the sum of the levels of all transmitted signals from each base  
10 station to the maximum transmission power of the base station.

1 Claim 5. A method as claimed in Claim 1 in which the step of  
2 determining all locations in a service area at which degraded operations  
3 may be expected comprises:  
4 determining total interference for each base station in the service area  
5 from data defining signals received at the base station,  
6 determining a received signal level providing a quality transmission at  
7 each base station,  
8 determining path loss between each location and each base station,  
9 determining a level of transmitted signal from each location to each base  
10 station at which signals are expected using received signal level providing  
11 a quality transmission at the base station and path loss between the  
12 location and each such base station, and  
13 comparing channel transmission power to the level of transmitted signal  
14 determined.